

WHAT IS CLAIMED IS:

1. An exposure method, comprising the steps of:

5 closely contacting, to a workpiece, a mask having an opening formed with lengthwise directions extending in orthogonal directions; and projecting, onto the mask, exposure light being polarized in a direction other than the directions mentioned above.

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2. A method according to Claim 1, further comprising detecting the lengthwise direction of the opening of the mask, and generating the exposure step on the basis of the detection.

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3. A method according to Claim 1, wherein in said projecting step exposure light being polarized in a direction with an angle of approximately 45° with respect to the lengthwise direction of the opening, is projected onto the mask.

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4. A method according to Claim 1, wherein the mask has an opening formed only in mutually orthogonal directions.

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5. An exposure mask, comprising:

a mask base material supported by a substrate and being effective to transmit exposure light therethrough;

5 a light blocking film formed on the mask base material and being effective to block the exposure light; and

an opening formed in the light blocking film and having its lengthwise directions extending in mutually orthogonal directions.

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6. An exposure mask according to Claim 5, further comprising a mark formed in the light blocking film, which mark bears information regarding the lengthwise direction of the opening.

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7. An exposure apparatus based on near-field light, comprising:

light source means for emitting light to illuminate a mask having an opening formed with

20 lengthwise directions extending in orthogonal directions; and

a polarization system disposed between the mask and said light source means, for polarizing the light in a direction other than the

25 directions mentioned above.

8. An apparatus according to Claim 7,

further comprising a detecting system for detecting the lengthwise direction of the opening, wherein said detecting system includes polarization control means for controlling the polarization direction of the light at an angle of 45° with respect to the lengthwise direction of the opening, on the basis of the detection made by said detecting system.

9. An apparatus according to Claim 7, wherein the mask has an opening formed only in mutually orthogonal directions.

10. An exposure apparatus, comprising:
a mask as recited in Claim 5 or 6; and
projecting means for projecting, to the mask, light having a polarization direction with an angle of approximately 45° with respect to the lengthwise direction of the opening formed in the mask.

11. In an exposure apparatus based on near-field light, the improvements residing in circularly polarized light projecting means for projecting, onto a mask having an opening formed with lengthwise directions extending in plural directions, exposure light having a circularly

polarized component.

12. An apparatus according to Claim 11,
therein said circularly polarized light projecting
5 means includes a light source unit for emitting
light having a polarization component of circular
polarization.

13. An apparatus according to Claim 11,
10 wherein said circularly polarized light projecting
means includes a light source unit for projecting
light having a polarization component of linear
polarization, and a converting element for
converting the linear polarization component of
15 the light into a circular polarization component.

14. An apparatus according to Claim 11,
wherein said circularly polarized light projecting
means includes a light source unit for projecting
20 light having a random polarization component, a
first converting element for converting the random
polarization component of the light into a
predetermined linear polarization component, and a
second converting element for converting the
25 predetermined linear polarization component into a
circular polarization component.

15. An exposure method, comprising the steps of:

5 closely contacting, to a workpiece, a mask having an opening formed with lengthwise directions extending in plural directions; and projecting, onto the mask, light having a polarization component of circular polarization.

10 16. A device manufacturing method, comprising the steps of:

 exposing a workpiece by use of an exposure apparatus as recited in any one of Claims 7 - 14; and

15 performing a predetermined process to the exposed workpiece.